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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/766,649	01/23/2001	Glenn Ferguson	033048-031	4295

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EXAMINER

REILLY, SEAN M

ART UNIT

PAPER NUMBER

2153

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/766,649	<b>Applicant(s)</b> FERGUSON ET AL.	
	<b>Examiner</b> Sean Reilly	<b>Art Unit</b> 2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

Another Examiner has been assigned to this application.

This is in response to Applicant's request for reconsideration and amendment filed on September 21, 2005. Claims 1-22 are presented for examination.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claims 1-7 and 9-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Notably, these claims merely recite a "configuration data model". The configuration data model as claimed is nonfunctional descriptive material since the configuration data model fails to impart functionality when employed as a computer component. The claimed "configuration data model" is merely a compilation and arrangement of data. Thus, claims 1-7 and 9-22 are non-statutory.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galis et al. (U.S. Patent No. 5,175,800, hereinafter "Galis"), in view of Bruck et al. (U.S. Patent No. 6,801,949, hereinafter "Bruck").

Note that the claimed invention essentially claims a system for modeling various components of a computer to create an overall configuration model of the network. It includes software and hardware elements, devices, virtual IP addresses, and device role IP host information, in addition to other information (see dependent claims). Each of these types of information is referred to as "entities" in the claim language. Applicant's specification describes that the model is beneficial to avoid the significant amounts of time necessary to manually, individually configure each component of a network, and to further avoid errors and duplicate formation of configuration parameters when configuring network components (p. 3).

With this in mind, it is necessary to draw attention to the Galis patent. Galis discloses the exact same concept of the claimed invention – i.e. modeling an entire network, including hardware, software, connectivity, etc. (see Galis, col. 5, lines 44-48, "means for a total communications network configuration. The present invention enables a human user to define and maintain a communications network configuration database with means to transfer the communications network configuration data to a communications network", for the purpose of "producing more consistent, reliable, and reproducible" configuration of network components (p. 5, lines 58-61). Thus, the only differences between the claimed invention and the Galis patent are the specific types of entities being modeled. Nonetheless, the specific entities modeled in the claimed invention, while not all disclosed by Galis, are all well-known network components. It

would have been obvious to include in the Galis system all known network components at the time the present application was filed, because the purpose of the Galis patent is to “produce a complete description of the physical and logical communications network” (col. 10, lines 61-63). A more detailed description is given below.

In considering claim 1, Galis discloses a configuration data model (“configuration data base”) for relating configuration objects of a computer network to other configuration objects (“which produces a complete description of the physical and logical communications network,” col. 10, lines 59-63), and for expressing the configuration objects of a computer network in a form accessible by other network components (col. 46, describing the user interface that remotely accesses the network and sets the configuration model), comprising:

Device role host entities that represent software roles to be implemented on specific network device hosts (col. 48, lines 16-17, 52, describing that the computers on the network include “hosts”; col. 10, line 64 – col. 11, line 3 & Fig. 9C, describing that the software entities on each network computer – i.e. “software logical entities” – are also included in the model, such that such software resident on a host computer will necessarily represent the computer’s role as a host);

Address entities that represent addresses associated with devices on a network (col. 48, lines 16-17; col. 49, line 26);

Status entities that represent the status of various software and hardware elements of a computer network (col. 11, lines 41-49, describing that the model includes the connectivity and relationships between hardware and software entities); and

Device entities that represent specific devices on a network (col. 11, lines 41-44).

However, Galis does not disclose that the network is an IP network such that the hosts are IP hosts and the addresses are virtual IP addresses. Nonetheless, configuring networks that include IP hosts and virtual IP addresses is well known, as evidenced by Bruck (see col. 14, lines 31-45, describing “virtual IP addresses” and “servers”; see also remainder of cols. 14-18). Given the teaching of Bruck that virtual IP addresses and IP hosts are well known in the art, it would have been obvious to a person having ordinary skill in the art to include the known virtual IP addresses and IP hosts in the network system taught by Galis, to “produce a complete description of the physical and logical communications network” including network entities known in 1999 in addition to those known in 1987.

In considering claim 2, Bruck further discloses that firewalls are also well known in the art (Fig. 1). Thus, it would have been obvious to include “conduit entities” – i.e. entities that provide a conduit through a network firewall – in the network configuration system taught Galis to “produce a complete description of the physical and logical communications network” including network entities known in 1999 in addition to those known in 1987.

In considering claim 3, Galis further discloses device role configuration entities that specify the configuration of various software roles to be implemented on devices connected to a network (col. 10, line 64 – col. 11, line 3 & Fig. 9C, describing that the software entities on each network computer – i.e. “software logical entities” – are also included in the model, and wherein each software entity necessarily has a role).

In considering claim 4, Galis further discloses device role configuration values that define specific types of device role configurations that may be contained by the device role configuration entities (col. 10, line 64 – col. 11, line 3 & Fig. 9C).

In considering claim 5, Galis further discloses role configurations entities that define the configuration associated with software roles of devices on a network (col. 10, line 64 – col. 11, line 3 & Fig. 9C).

In considering claim 6, Galis discloses a configuration data model for relating information regarding the configuration of various software, network, and hardware entities on a computer network, comprising:

Role configurations entities, device role configuration entities, and device role IP host entities that define the configuration of various software roles of devices and applications used on a computer network (col. 48, lines 16-17, 52, describing that the computers on the network include “hosts”; col. 10, line 64 – col. 11, line 3 & Fig. 9C, describing that the software entities on each network computer – i.e. “software logical entities” – are also included in the model, such that such software resident on a host computer will necessarily represent the computer’s role as a host); and

Address entities that relate to addresses to be used by devices connected to a network (col. 48, lines 16-17; col. 49, line 26).

However, Galis does not disclose that the addresses are virtual IP address, and also does not disclose status entities for monitoring the status of various software and hardware elements

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of the computer network. Nonetheless, both of these are well known, as evidenced by Bruck (as discussed previously, Bruck discloses virtual IP, col. 14, lines 31-45; Bruck also discloses that a network can include monitoring entities – see Abstract). Given the teaching of Bruck that virtual IP addresses and network monitoring are well known in the art, it would have been obvious to a person having ordinary skill in the art to include the known virtual IP addresses and network monitoring entities taught by Bruck in the network system taught by Galis, to “produce a complete description of the physical and logical communications network” including network entities known in 1999 in addition to those known in 1987.

In considering claim 7, Bruck further teaches that the virtual IPs entities relate to device entities representing specific devices connected to a network, and act as a buffer between the network and the devices represented by the device entities (this is the definition of virtual IP addresses, see Bruck, col. 8, lines 1-16).

In considering claim 8, as discussed above, the combined teaching of Galis and Bruck discloses a computer readable set of instructions residing on a computer-readable medium that produces a software data model comprising:

Device role IP host entities, virtual IPs entities, device role configuration entities, and status entities, wherein the device role IP host entities, role configuration entities, and device role configuration entities each relate to software that comprise multiple software packages to be installed on various devices connected to a network (col. 10, line 64 – col. 11, line 3 & Fig. 9C; col. 55, lines 40-60, describing the configuration process which necessarily includes installation

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of the software configuration packages along with all other network configuration), wherein the virtual IPs entities relate to device entities representing specific devices, and provide virtual IP addresses for the devices represented by the device entities to the various other devices using the computer network (i.e. this is the nature of virtual IP addresses – see Bruck, col. 8, lines 1-16), and wherein said status entities monitor the status of hardware devices and software applications used on the network (i.e. monitoring functions taught by Bruck).

In considering claim 9, the combined teaching of Galis and Bruck discloses a configuration data model for characterizing the configuration of all software and hardware elements connected to a network (“produce a complete description of the physical and logical communications network”; Galis, col. 10, lines 61-63)), comprising:

A plurality of device entities (Galis, “nodes”);

A plurality of conduit entities (Bruck, “Firewall”);

A plurality of device role IP host entities (Galis, host software; Bruck, IP hosts);

A plurality of interface IP type entities (Bruck, “Firewall”);

A plurality of virtual IPs entities (Bruck, “virtual IP”);

A plurality of services entities (Bruck, network monitoring services);

A plurality of role configurations entities and device role configurations entities (Galis, necessarily part of the software entities);

A plurality of status entities (Bruck, network monitoring entities);

A plurality of component type entities (Galis, “devices”); and

A plurality of device role configuration values entities (Galis, necessarily part of the software entities).

Again, it would have been obvious to include any known network entities, such as those taught by Bruck, in the Galis network configuration system, to “produce a complete description of the physical and logical communications network” including network entities known in 1999 in addition to those known in 1987.

In considering claim 10, although the system taught by Galis and Bruck discloses substantial features of the claimed invention, it remains silent regarding the manufacturing model of the network entities. Nonetheless, any network will have devices of certain manufacturing models. Thus, it would have been obvious to a person having ordinary skill in the art to include these manufacturing models as part of the extensive network model taught by Galis and Bruck, to “produce a complete description of the physical and logical communications network” including network entities known in 1999 in addition to those known in 1987.

In considering claim 11, Galis further discloses that the plurality of configuration entities further comprises a plurality of component objects entities (col. 48, lines 39-50).

3. Claims 12-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galis, in view of Bruck, and further in view of Zager et al. (U.S. Patent No. 6,393,386, hereinafter “Zager”).

In considering claim 12, Zager also discloses a network model for modeling certain components in a network (see Abstract). Thus, because Galis aims to “produce a complete

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description of the physical and logical communications network”, it would have been obvious for a person having ordinary skill in the art to include any network entities disclosed in the system of Zager in the network model system taught by Galis. This said, Zager further discloses a plurality of device roles history entities (“interaction history,” col. 15, lines 50-63).

In considering claim 13, Galis discloses that entities are ports (“port”), and Bruck further discloses that the entities can be a firewall (“firewall”). Zager further discloses that network entities can relate to each other in various types of ways, including many-to-one, one-to-many, one-to-one, and many-to-many (col. 29, lines 46-61, “relationship types have the following attributes... one-to-many... many-to-one”). Thus, it would have been obvious to include all of these types of network entities in the network model taught by Galis, to “produce a complete description of the physical and logical communications network” that exists in modern computer networks.

Claims 14-22 describe that the different claimed entities relate to each other in different ways, such as many-to-one and one-to-many relationships. As discussed above, such types of connections are well known components of computer network systems, and would have been obvious to include in the Galis model, to “produce a complete description of the physical and logical communications network” that exists in modern computer networks.

*Response to Arguments*

In response to Applicant's request for reconsideration filed on 9/21/2005, the following factual arguments are noted:

- a. Claims 1-7 and 9-22 are directed to statutory subject matter since the data model is stored in a database embodied on a computer readable medium.
- b. The combination of Galis and Bruck is invalid and failed to disclose various *entities* in a data model.

In considering (a), Examiner respectfully disagrees with Applicant's argument. As indicated above claims 1-7 and 9-22 recite a "configuration data model" which is nonfunctional descriptive material. Applicant has amended the claims to embody the nonfunctional descriptive material in a database on a computer readable medium. However, merely recording the nonfunctional descriptive material onto a computer readable medium fails to render the claims statutory.

In considering (b), Examiner respectfully disagrees with Applicant's argument.

Applicant contends that the Galis system may only be used to reconfigure an X.25 multiplexer and thus cannot be applied to general communication networks. Examiner respectfully disagrees with this analysis. While Galis may disclose an embodiment where X.25 multiplexers are configured in a network, Galis certainly does not restrict his network configuration and modeling scheme to a single networking component such as a multiplexer. In fact, Galis specifically states that his system may be applied to various communication networks

that may or may not include multiplexers (Col 5, lines 61-68, also see Col 10, line 59- Col 11, line 3). Thus, Galis's system is directed to any communication network and not merely networks which contain X.25 multiplexers.

Applicant also contends that the Bruck system failed to disclose that *IP* host entities and *virtual IP* addresses are stored in a data model. Based on this knowledge Applicant then concludes that the inclusion of such IP entities in the Galis system data model would be unobvious. Examiner respectfully traverses this line of reasoning. Whether or not Bruck disclosed storing such IP entities in a data model is irrelevant. Galis's system involves modeling and maintaining networks (Abstract) and more specifically modeling a *complete* network at the physical and logical levels (Col 10, lines 59-62). Accordingly one of ordinary skill in the art would have included any and all networking elements within a given network as needed to completely model the network at a physical and logical level. The Bruck reference was merely used to show that the claimed *IP* entities were widely known in networks at the time of the invention and thus would have been included by one of ordinary skill in the art when modeling networks that include them.

Applicant also asserts that Galis failed to disclose status entities that represent the status of the various software and hardware elements of a computer network. Examiner respectfully disagrees. Galis's system clearly stores of the status of software and hardware elements in the network. For instance Galis's system stores the configuration (software and hardware status) of each network work device (Col 11, lines 55-60).

### ***Conclusion***

The prior art made of record, in PTO-892 form, and not relied upon is considered pertinent to applicant's disclosure.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

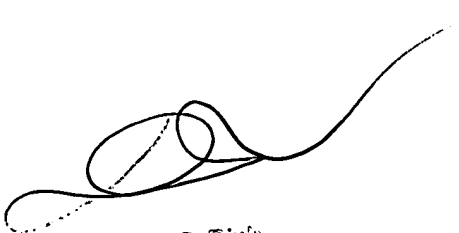

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Reilly whose telephone number is 571-272-4228. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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11/15/2005



11/15/2005  
Patent Examiner